

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of performing static timing analysis on a design, the method comprising:

performing multiple static timing analysis runs with the design, each run using a predetermined set of parameters including a mode and a corner;

saving results from the multiple static timing analysis runs; and

merging the results to provide analysis coverage, path information at multiple levels of detail, and user-selected accessibility to the results, the results being organized based on at least one of modes and corners.

2. (Original) The method of Claim 1, wherein the multiple static timing analysis runs are independent.

3. (Original) The method of Claim 1, wherein the multiple static timing analysis runs share information.

4. (Original) The method of Claim 1, wherein the multiple static timing analysis runs are performed in parallel.

5. (Original) The method of Claim 1, wherein the multiple static timing analysis runs are performed in series.

6. (Original) The method of Claim 1, wherein saving results includes forming a database that can be queried at different levels of detail.

7. (Original) The method of Claim 6, wherein saving results includes restoring the database and making additional queries.

8. (Original) The method of Claim 7, wherein the additional queries can be made from one or more runs.

9. (Original) The method of Claim 8, wherein each query adds additional results to the saved results of each run.

10. (Cancelled)

11. (Currently Amended) The method of Claim ~~10~~ 1, wherein the predetermined set of parameters includes a plurality of modes and corners, wherein the multiple static timing analysis runs share information, and wherein the plurality of modes and corners are automatically analyzed to determine shared information between parallel runs.

12. (Original) The method of Claim 1, wherein the saved results include intermediate results to support arbitrary queries.

13. (Original) The method of Claim 12, wherein the intermediate results include a predetermined set of parameters that are used in creating additional results.

14. (Original) The method of Claim 1, wherein the saved results include results of predetermined queries.

15. (Original) The method of Claim 1, wherein the saved results include at least one of cell delays, net delays, transition times, a timing graph, a parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves, noise slack, current density, application attributes,

user attributes, cells, nets, an analysis coverage, profiling of endpoints, profiling of paths, modes, case analysis propagation, design corner description, slack, design cost, constraints, annotations, combinational loops, clock re-convergence points, arrival times, required times, a timing window, crosstalk delays, and operating conditions.

16. (Original) The method of Claim 1, further including reporting the merged results, wherein the reported results include at least one of cell delays, net delays, transition times, timing graph, parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves, noise slack, current density, application attributes, user attributes, cells, nets, analysis coverage, profiling of endpoints, profiling of paths, modes, case analysis propagation, design corner description, slack, design cost, constraints, annotations, combinational loops, clock re-convergence points, arrival times, required times, a timing window, crosstalk delays, and operating conditions.

17. (Currently Amended) The method of Claim ~~10~~ 1, wherein performing the multiple static timing analysis runs allows multiple modes and corners to be analyzed simultaneously.

18. (Original) The method of Claim 17, further including modifying a predetermined set of parameters after completing an initial multi-mode/multi-corner analysis, and performing an analysis to provide a what-if capability, thereby driving design optimization.

19. (Currently Amended) A method of performing static timing analysis on a design, the method comprising:
performing multiple static timing analysis runs with the design, each run using a predetermined set of parameters including a mode and a corner;
saving results from the multiple static timing analysis runs; and
merging the results ~~The method of Claim 10,~~ wherein desired information regarding a predetermined set of modes/corners can be merged before other information.

20. (Currently Amended) A report generated by static timing analysis, the report comprising:

a set of automatically merged results generated by a plurality of static timing analysis runs, wherein the merged results provide analysis coverage, path information at multiple levels of detail, and user-selected accessibility to the results, the results being organized based on at least one of modes and corners.

21. (Original) The report of Claim 20, wherein the results from each run are stored in a database.

22. (Original) The report of Claim 21, wherein the database can be queried at different levels of detail to generate the report.

23. (Original) The report of Claim 20, wherein the set of automatically merged results is user-specified.

24. (Original) The report of Claim 20, wherein the set of automatically merged results is determined in advance of each run.

25. (Currently Amended) A computer-readable medium comprising instructions, that when executed by a processor, provide instructions for generating merged results from multiple static timing analysis runs, the instructions comprising:

a first set of instructions for performing the multiple static timing analysis runs with a design, each run using a predetermined set of parameters including a mode and a corner;

a second set of instructions for saving results from the multiple static timing analysis runs; and

a third set of instructions for automatically merging the results to provide analysis coverage, path information at multiple levels of detail, and user-selected accessibility to the results, the results being organized based on at least one of modes and corners.

26. (Previously Presented) The computer-readable medium of Claim 25, further comprising a fourth set of instructions for performing the multiple static timing analysis run independently.

27. (Previously Presented) The computer-readable medium of Claim 25, further comprising a fourth set of instructions for sharing information between the multiple static timing analysis runs.

28. (Previously Presented) The computer-readable medium of Claim 25, further comprising a fourth set of instructions for performing the multiple static timing analysis runs in parallel.

29. (Previously Presented) The computer-readable medium of Claim 25, further comprising a fourth set of instructions for performing the multiple static timing analysis runs in series.

30. (Previously Presented) The computer-readable medium of Claim 25, wherein the second set of instructions for saving results includes instructions for forming a database that can be queried at different levels of detail.

31. (Cancelled)

32. (Currently Amended) The computer-readable medium of Claim ~~31~~ 25, wherein the first set of instructions for performing the multiple static timing analysis runs includes instructions that allow multiple modes and corners to be analyzed simultaneously.

33. (Currently Amended) ~~The A~~ A computer-readable medium ~~of Claim 31, comprising instructions, that when executed by a processor, provide instructions for generating merged results from multiple static timing analysis runs, the instructions comprising:~~

a first set of instructions for performing the multiple static timing analysis runs with a design, each run using a predetermined set of parameters including a mode and a corner;

a second set of instructions for saving results from the multiple static timing analysis runs;

a third set of instructions for automatically merging the results; and

~~further comprising~~ a fourth set of instructions for merging desired information regarding a predetermined set of modes/corners before merging other information.

34. (Currently Amended) A method of performing static timing analysis on a design, the method comprising:
performing at least one static timing analysis run with the design, each run using a predetermined set of parameters including a mode and a corner;
saving results from each static timing analysis run to external storage;
reading set of saved results to provide analysis coverage and path information at multiple levels of detail; and
reporting the saved results.

35. (Original) The method of Claim 34, wherein saving results includes forming a database that can be queried at different levels of detail.

36. (Original) The method of Claim 35, wherein saving results further includes restoring the database and making additional queries.

37. (Original) The method of Claim 36, wherein the additional queries can be made from one or more runs.

38. (Original) The method of Claim 37, wherein each query adds additional results to the saved results of each run.

39. (Original) The method of Claim 34, wherein the saved results include intermediate results to support arbitrary queries.

40. (Original) The method of Claim 39, wherein the intermediate results include a predetermined set of parameters that are used in creating additional results.

41. (Original) The method of Claim 34, wherein the saved results include results of predetermined queries.

42. (Original) The method of Claim 34, wherein the saved results include at least one of cell delays, net delays, transition times, a timing graph, a parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves, noise slack, current density, application attributes, user attributes, cells, nets, an analysis coverage, profiling of endpoints, profiling of paths, modes, case analysis propagation, design corner description, slack, design cost, constraints, annotations, combinational loops, clock re-convergence points, arrival times, required times, a timing window, crosstalk delays, and operating conditions.

43. (Original) The method of Claim 34, further including reporting the merged results, wherein the reported results include at least one of cell delays, net delays, transition times, timing graph, parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves, noise slack, current density, application attributes, user attributes, cells, nets, analysis coverage, profiling of endpoints, profiling of paths, modes, case analysis propagation, design corner description, slack, design cost, constraints, annotations, combinational loops, clock re-convergence points, arrival times, required times, a timing window, crosstalk delays, and operating conditions.

44. (Cancelled)

45. (New) A method of performing static timing analysis on a design, the method comprising:

performing multiple static timing analysis runs with the design, each run using a predetermined set of parameters including a mode and a corner;

saving results from the multiple static timing analysis runs; and

merging the results to provide path information at multiple levels of detail and user-selected accessibility to the results, the results being organized based on at least one of modes and corners.

46. (New) The method of Claim 45, wherein the multiple static timing analysis runs are independent.

47. (New) The method of Claim 45, wherein the multiple static timing analysis runs share information.

48. (New) The method of Claim 45, wherein the multiple static timing analysis runs are performed in parallel.

49. (New) The method of Claim 45, wherein the multiple static timing analysis runs are performed in series.

50. (New) The method of Claim 45, wherein saving results includes forming a database that can be queried at different levels of detail.

51. (New) The method of Claim 50, wherein saving results includes restoring the database and making additional queries.

52. (New) The method of Claim 51, wherein the additional queries can be made from one or more runs.

53. (New) The method of Claim 52, wherein each query adds additional results to the saved results of each run.

54. (New) The method of Claim 45, wherein the predetermined set of parameters includes a plurality of modes and corners, wherein the multiple static timing analysis runs share information, and wherein the plurality of modes and corners are automatically analyzed to determine shared information between parallel runs.

55. (New) The method of Claim 45, wherein the saved results include intermediate results to support arbitrary queries.

56. (New) The method of Claim 55, wherein the intermediate results include a predetermined set of parameters that are used in creating additional results.

57. (New) The method of Claim 45, wherein the saved results include results of predetermined queries.

58. (New) The method of Claim 45, wherein the saved results include at least one of cell delays, net delays, transition times, a timing graph, a parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves, noise slack, current density, application attributes, user attributes, cells, nets, an analysis coverage, profiling of endpoints, profiling of paths, modes, case analysis propagation, design corner description, slack, design cost, constraints,

annotations, combinational loops, clock re-convergence points, arrival times, required times, a timing window, crosstalk delays, and operating conditions.

59. (New) The method of Claim 45, further including reporting the merged results, wherein the reported results include at least one of cell delays, net delays, transition times, timing graph, parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves, noise slack, current density, application attributes, user attributes, cells, nets, analysis coverage, profiling of endpoints, profiling of paths, modes, case analysis propagation, design corner description, slack, design cost, constraints, annotations, combinational loops, clock re-convergence points, arrival times, required times, a timing window, crosstalk delays, and operating conditions.

60. (New) The method of Claim 45, wherein performing the multiple static timing analysis runs allows multiple modes and corners to be analyzed simultaneously.

61. (New) The method of Claim 60, further including modifying a predetermined set of parameters after completing an initial multi-mode/multi-corner analysis, and performing an analysis to provide a what-if capability, thereby driving design optimization.

62. (New) A method of performing static timing analysis on a design, the method comprising:

performing multiple static timing analysis runs with the design, each run using a predetermined set of parameters including a mode and a corner;

saving results from the multiple static timing analysis runs; and

merging the results to provide analysis coverage, the results being organized based on at least one of modes and corners, and the analysis coverage including reporting parts of the design that are analyzed for each mode and corner.

63. (New) The method of Claim 62, wherein the multiple static timing analysis runs are independent.

64. (New) The method of Claim 62, wherein the multiple static timing analysis runs share information.

65. (New) The method of Claim 62, wherein the multiple static timing analysis runs are performed in parallel.

66. (New) The method of Claim 62, wherein the multiple static timing analysis runs are performed in series.

67. (New) The method of Claim 62, wherein saving results includes forming a database that can be queried at different levels of detail.

68. (New) The method of Claim 67, wherein saving results includes restoring the database and making additional queries.

69. (New) The method of Claim 68, wherein the additional queries can be made from one or more runs.

70. (New) The method of Claim 69, wherein each query adds additional results to the saved results of each run.

71. (New) The method of Claim 62, wherein the predetermined set of parameters includes a plurality of modes and corners, wherein the multiple static timing analysis runs share information, and wherein the plurality of modes and corners are automatically analyzed to determine shared information between parallel runs.

72. (New) The method of Claim 62, wherein the saved results include intermediate results to support arbitrary queries.

73. (New) The method of Claim 72, wherein the intermediate results include a predetermined set of parameters that are used in creating additional results.

74. (New) The method of Claim 62, wherein the saved results include results of predetermined queries.

75. (New) The method of Claim 62, wherein the saved results include at least one of cell delays, net delays, transition times, a timing graph, a parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves, noise slack, current density, application attributes, user attributes, cells, nets, an analysis coverage, profiling of endpoints, profiling of paths, modes, case analysis propagation, design corner description, slack, design cost, constraints, annotations, combinational loops, clock re-convergence points, arrival times, required times, a timing window, crosstalk delays, and operating conditions.

76. (New) The method of Claim 62, further including reporting the merged results, wherein the reported results include at least one of cell delays, net delays, transition times, timing graph, parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves, noise slack, current density, application attributes, user attributes, cells, nets, analysis coverage, profiling of endpoints, profiling of paths, modes, case analysis propagation, design corner description, slack, design cost, constraints, annotations, combinational loops, clock re-convergence points, arrival times, required times, a timing window, crosstalk delays, and operating conditions.

77. (New) The method of Claim 62, wherein performing the multiple static timing analysis runs allows multiple modes and corners to be analyzed simultaneously.

78. (New) The method of Claim 77, further including modifying a predetermined set of parameters after completing an initial multi-mode/multi-corner analysis, and performing an analysis to provide a what-if capability, thereby driving design optimization.

79. (New) A report generated by static timing analysis, the report comprising:

a set of automatically merged results generated by a plurality of static timing analysis runs, wherein the merged results provide path information at multiple levels of detail and user-selected accessibility to the results, the results being organized based on at least one of modes and corners.

80. (New) A report generated by static timing analysis, the report comprising:

a set of automatically merged results generated by a plurality of static timing analysis runs, wherein the merged results provide analysis coverage, the results being organized based on at least one of modes and corners, and the analysis coverage including reporting parts of a design that are analyzed for each mode and corner.

81. (New) A computer-readable medium comprising instructions, that when executed by a processor, provide instructions for generating merged results from multiple static timing analysis runs, the instructions comprising:

a first set of instructions for performing the multiple static timing analysis runs with a design, each run using a predetermined set of parameters including a mode and a corner;

a second set of instructions for saving results from the multiple static timing analysis runs; and

a third set of instructions for automatically merging the results to provide path information at multiple levels of detail and user-selected accessibility to the results, the results being organized based on at least one of modes and corners.

82. (New) A computer-readable medium comprising instructions, that when executed by a processor, provide instructions for generating merged results from multiple static timing analysis runs, the instructions comprising:

a first set of instructions for performing the multiple static timing analysis runs with a design, each run using a predetermined set of parameters including a mode and a corner;

a second set of instructions for saving results from the multiple static timing analysis runs; and

a third set of instructions for automatically merging the results to provide analysis coverage, the results being organized based on at least one of modes and corners, and the analysis coverage including reporting parts of the design that are analyzed for each mode and corner.